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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,147	10/19/2001	Alex Cho	49041-00018USPT	8492

7590

08/30/2002

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EXAMINER

MCGUTHRY BANKS, TIMA M

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 08/30/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/000,147

Applicant(s)

CHO, ALEX

Examiner

Tima M. McGuthry-Banks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE-MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### DETAILED ACTION

1. The papers filed on 4 March 2002 (certificate of mailing dated 21 February 2002) have not been made part of the permanent records of the United States Patent and Trademark Office (Office) for this application (37 CFR 1.52(a)) because of damage from the United States Postal Service irradiation process. The above-identified papers, however, were not so damaged as to preclude the USPTO from making a legible copy of such papers. Therefore, the Office has made a copy of these papers, substituted them for the originals in the file, and stamped that copy:

#### COPY OF PAPERS ORIGINALLY FILED

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If applicant wants to review the accuracy of the Office's copy of such papers, applicant may either inspect the application (37 CFR 1.14(d)) or may request a copy of the Office's records of such papers (*i.e.*, a copy of the copy made by the Office) from the Office of Public Records for the fee specified in 37 CFR 1.19(b)(4). Please do **not** call the Technology Center's Customer Service Center to inquiry about the completeness or accuracy of Office's copy of the above-identified papers, as the Technology Center's Customer Service Center will **not** be able to provide this service.

If applicant does not consider the Office's copy of such papers to be accurate, applicant must provide a copy of the above-identified papers (except for any U.S. or foreign patent documents submitted with the above-identified papers) with a statement that such copy is a

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complete and accurate copy of the originally submitted documents. If applicant provides such a copy of the above-identified papers and statement within **THREE MONTHS** of the mail date of this Office action, the Office will add the original mailroom date and use the copy provided by applicant as the permanent Office record of the above-identified papers in place of the copy made by the Office. Otherwise, the Office's copy will be used as the permanent Office record of the above-identified papers (*i.e.*, the Office will use the copy of the above-identified papers made by the Office for examination and all other purposes). This three-month period is not extendable.

#### ***Claim Objections***

2. The examiner suggests that the applicant use a format such as Markush language in Claims 5-7 and 10.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

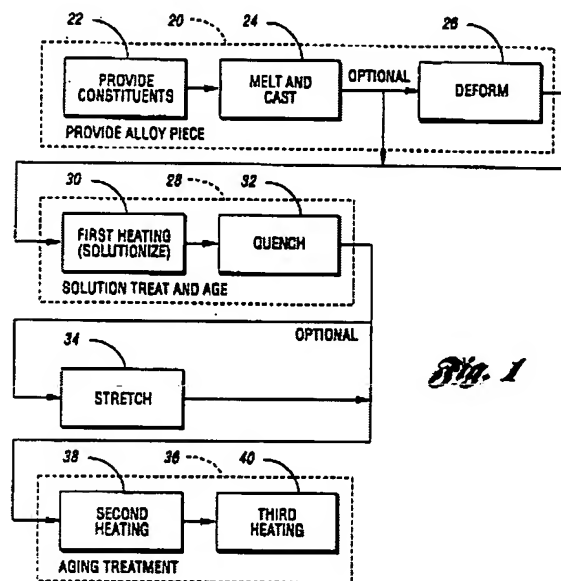
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-13 are rejected under 35 U.S.C. 102(a) as being anticipated by Waldron et al (US 6,074,498).

Waldron anticipates the claimed invention. Waldron teaches solution treating,

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quenching, and heating in two steps an aluminum-copper alloy (see Figure 1 below).



The first heating step involves aging for 8-30 hr at 120-140° C [248-284° F], and the second heating step involves aging for 10-20 hr at 150-170° C [302-338° F] (Claim 1). Regarding Claim 2, Figure 1 shows a step of stretching. Regarding Claim 3, Waldron teaches producing a heat-treated aluminum-copper alloy (column 2, line 8). Regarding Claim 4, the alloy contains lithium (Claim 1). Regarding Claim 5, the alloy contains Zr, Fe, and Mg (column 3, lines 6-10). Regarding Claim 6, the alloy contains Mg, Li, and Si (lines 7-10). Regarding Claim 7, the alloy contains Zr and Fe (line 9). Regarding Claim 8, the alloy contains 2.6-3.3% Cu (line 7). Regarding Claim 9, the alloy contains 2.6-3.3% Cu and 2.0-2.4% Li. Regarding Claim 10, the alloy contains Li, Mg, and Zr (lines 7-10). Regarding Claim 11, the solution treatment is 425-600° C [797-1112° F] (lines 37 and 38). Regarding Claim 12, the first aging is for 8-30 hr. Regarding Claim 13, the second temperature is 10-30° C [18-90° F] greater than the first

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temperature.

5. Claims 15-20 are rejected under 35 U.S.C. 102(a) as being anticipated by Waldron '498.

Waldron anticipates the claimed invention. Waldron teaches solution treating, quenching, and heating in two steps in Figure 1 an aluminum-copper alloy. The first heating step involves aging for 8-30 hr at 120-140° C [248-284° F], and the second heating step involves aging for 10-20 hr at 150-170° C [302-338° F] (Claim 1). Regarding Claim 16, Waldron teaches producing a heat-treated aluminum-copper alloy (column 2, line 8). Regarding Claim 17, the alloy contains lithium (Claim 1). Regarding Claim 18, the alloy comprises 2.6-3.3% Cu. Regarding Claim 19, the alloy contains 2.6-3.3% Cu and 2.0-2.4% Li. Regarding Claim 10, the alloy contains Li, Mg, and Zr (lines 7-10). Regarding Claim 20, the second temperature is 10-30° C [18-90° F] greater than the first temperature.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Waldron '498 as applied to Claims 1-13 above, and further in view of Pickens et al (US 5,455,003).

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Waldron discloses the invention substantially as claimed. Waldron teaches aging at 120-140° C [248-284° F] and aging at 150-170° C [302-338° F] (Claim 1); however, Waldron does not give any criticality to these temperature ranges (column 4, lines 40-44) and does not teach a first aging step greater than 140° C [284° F] or a second aging step greater than 170° C [338° F]. Pickens teaches producing aluminum-copper-lithium alloys by solution heat treating, quenching, working, and artificially aging the alloy (column 3, lines 3-12). Artificial ageing temperatures vary in the range of less than 120°C [248° F] to greater than 180° C [356° F] column 6, lines 54-55). It would have been obvious to one with ordinary skill in the art at the time the invention was made that the alloy of Waldron could be aged within the claimed temperature range with the same difference in aging temperature steps, since Pickens teaches that artificial aging temperatures are chosen to promote the desirable cryogenic fracture toughness trend (column 6, lines 56-59). Additionally, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Waldron '498 as applied to Claims 15-20 above, and further in view of Pickens '003.

Waldron discloses the invention substantially as claimed. Waldron teaches aging at 120-140° C [248-284° F] and aging at 150-170° C [302-338° F] (Claim 1); however, Waldron does not give any criticality to these temperature ranges (column 4, lines 40-44) and does not teach a first aging step greater than 140° C [284° F] or a second aging step greater than 170° C [338° F].

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Pickens teaches producing aluminum-copper-lithium alloys by solution heat treating, quenching, working, and artificially aging the alloy (column 3, lines 3-12). Artificial ageing temperatures vary in the range of less than 120°C [248° F] to greater than 180° C [356° F] column 6, lines 54-55). It would have been obvious to one with ordinary skill in the art at the time the invention was made that the alloy of Waldron could be aged within the claimed temperature range with the same difference in aging temperature steps, since Pickens teaches that artificial aging temperatures are chosen to promote the desirable cryogenic fracture toughness trend (column 6, lines 56-59). Additionally, it has been held that where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tima M. McGuthry-Banks, whose telephone number is 703-308-1917. The examiner can normally be reached on 9:30-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King, can be reached on 703-308-1146. The fax numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

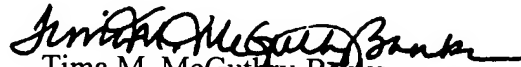


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is 703-308-0651.

A handwritten signature in black ink, appearing to read 'Tima M. McGuthry-Banks', written in a cursive style.

Tima M. McGuthry-Banks

Examiner

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August 27, 2002